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METHODS FOR THE PREPARATION OF ALKYL DIARYL BORINATES AND COMPLEXED DIARYLBORONIC ACIDS

This application is a 371 of PCT/US03/00768 filed on 01/09/2003.

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority from U.S. Provisional Application Serial Number 60/347,811, filed January 9, 2002, the disclosure of which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION**1. Field of the Invention**

This invention relates to methods for preparing alkyl diarylborinates and methods for preparing complexed diarylboronic acids, which are useful as antibacterial agents.

2. Description of the Related Art

N-O complexed diarylboronic acids are known to be effective pharmaceutical agents. For example, such compounds are capable of inhibiting adenine DNA methyltransferases in bacterial cells and thus exhibit antibacterial, growth-inhibitory properties against any bacterial species that produces an adenine DNA methyltransferase. Antibacterial diarylboronic acids are described in International Application Publication No. WO 00/75142.

Currently available methods for the preparation of N-O complexed diarylboronic acids require the use of dichloroborane methyl sulfide complex as a starting material. The use of dichloroborane methyl sulfide complex has several disadvantages, including the formation of dimethyl sulfide (DMS) as a side product of the reaction. Further, dichloroborane methyl sulfide reacts violently with water to produce flammable and harmful gases and has a repugnant odor that causes great discomfort for any lab personnel working with the material.